

CLAIMS

1. A method for using a plurality of error-detectable key fragments of an original license key string, comprising:
 - fragmenting the original key string into a plurality of key fragments; and
 - 5 calculating, for each key fragment, corresponding check data; and
 - combining each key fragment with its corresponding check data to form said error-detectable key fragments.
2. The method of claim 1, further comprising:
 - 10 receiving a plurality of user-entered key fragments;
 - using said corresponding check data of said received key fragments to detect whether said received key fragments were entered correctly; and
 - generating an error message when a received key fragment is inaccurate.
- 15 3. The method of claim 1, further comprising:
 - receiving a plurality of user-entered key fragments;
 - using said corresponding check data of said received key fragments to detect whether the received key fragments were entered correctly; and
 - defragmenting the key data of the received key fragments into a reconstituted
 - 20 key string that is the same as the original key string.
4. The method of claim 3, wherein said defragmenting of the key data is performed when all received key fragments are entered correctly.
- 25 5. The method of claim 4, further comprising:
 - providing the reconstituted key string to a software package to enable use of the software package.
6. The method of claim 4, further comprising:
 - 30 providing the reconstituted key string to a hardware component to enable use of the hardware component or a portion thereof.

7. The method of claim 1, wherein receiving the key string comprises:
receiving the key string in computer-readable form from a key generator.
8. The method of claim 1, further comprising:
5 providing said error-detectable key fragments in human-readable form.
9. The method of claim 1, wherein combining each key fragment with its
corresponding check data to form said error-detectable key fragments comprises:
combining each key fragment with its corresponding check data to form
10 friendly error-detectable key fragments.
10. The method of claim 9, wherein each friendly error-detectable key fragment
comprises at least one word.
- 15 11. The method of claim 9, wherein each friendly error-detectable key fragment is
longer than the corresponding key fragment.
12. The method of claim 9, wherein combining each key fragment with its
corresponding check data to form friendly error-detectable key fragments comprises:
20 using at least a portion of one of either said key fragment or said check data to
select data from a database to form at least a portion of said friendly error-detectable
key fragment.
13. The method of claim 10, wherein combining each key fragment with its
25 corresponding check data to form friendly error-detectable key fragments comprises:
generating a first partial friendly error-detectable key fragment from the key
fragment;
generating a second partial friendly error-detectable key fragment from the
corresponding check data; and
30 generating said friendly error-detectable key fragment from the first partial
friendly error-detectable key fragment and the second partial friendly error-detectable
key fragment.
14. A method of segmenting a license key string into a plurality of error-correctable

key fragments, comprising:

- fragmenting the key string into a plurality of key fragments; and
 - calculating, for each key fragment, corresponding error-correction data; and
 - combining each key fragment with said corresponding error-correction data to
- 5 for a plurality of error-correctable key fragments, wherein said error-correction data permits the identification of errors in said error-correctable key fragments.

15. The method of claim 14, further comprising:
- providing the plurality of error-correctable key fragments in human-readable
- 10 form.

16. The method of claim 14, further comprising:
- receiving a plurality of user-entered error-correctable key fragments;
 - identifying errors in each received error-correctable key fragment using said
- 15 corresponding error-correction data in the received error-correctable key fragments;
- defragmenting the key data of the received error-correctable key fragments into a reconstituted key string that is the same as the original license key string.

17. The method of claim 16, further comprising:
- generating an error message indicating said identifier errors in each received
- 20 error-correctable key fragments.

18. The method of claim 16, wherein generating an error message comprises:
- generating an error message that identifies one or more portions of the
- 25 received error-correctable key fragment that was entered incorrectly.

19. The method of claim 16, further comprising:
- providing said reconstituted key string to a software package to enable use of the software package.

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20. The method of claim 16, further comprising:
- providing said reconstituted key string to a hardware component to enable use of the hardware component or a portion thereof.

21. The method of claim 14, further comprising:

Receiving the original key string in computer-readable form from a key generator.

5 22. The method of claim 14, wherein the plurality of error-correctable key fragments comprise friendly error-correctable key fragments.

23. The method of claim 14, wherein each friendly error-correctable key fragment comprises at least one word.

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24. The method of claim 14, wherein each friendly error-correctable key fragment comprises a greater number of characters than said corresponding key fragment.

25. The method of claim 22, wherein combining each key fragment with its
15 corresponding check data to form friendly error-correctable key fragments comprises:
using at least a portion of one of either said key fragment or said error correction data to select data from a database to form at least a portion of said friendly error-correctable key fragment.

20 26. The method of claim 22, further comprising:
receiving a plurality of entered friendly error-correctable key fragments each comprising key data and corresponding error correction data;
using said error correction data to detect errors in said corresponding key data;
generating an error message identifying said detected errors.

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27. The method of claim 22, further comprising:
receiving a plurality of entered friendly error-correctable key fragments each comprising key data and error correction data;
using error correction data to detect errors in said corresponding key data;
30 defragmenting correct friendly error-correctable key fragments to form a reconstituted license key string.

28. An article of manufacture, comprising:
a computer-readable medium storing computer-executable instructions capable

of segmenting a key string into a plurality of error-detectable key fragments,
comprising:

- fragmentating the original key string into a plurality of key fragments; and
- calculating, for each key fragment, corresponding check data; and
- 5 combining each key fragment with its corresponding check data to form said error-detectable key fragments.

29. The article of manufacture of claim 28, further comprising:

- receiving a plurality of user-entered key fragments;
- 10 using said corresponding check data of said received key fragments to detect whether said received key fragments were entered correctly; and
- generating an error message when a received key fragment is inaccurate.

30. The article of manufacture of claim 28, further comprising:

- 15 receiving a plurality of user-entered key fragments;
- using said corresponding check data of said received key fragments to detect whether the received key fragments were entered correctly; and
- defragmenting the key data of the received key fragments into a reconstituted key string that is the same as the original key string.

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31. The article of manufacture of claim 30, further comprising:

- providing the reconstituted key string to a software package to enable use of the software package.

25 32. The article of manufacture of claim 30, further comprising:

- providing the reconstituted key string to a hardware component to enable use of the hardware component or a portion thereof.

33. The article of manufacture of claim 28, wherein combining each key fragment
30 with its corresponding check data to form said error-detectable key fragments comprises:

- combining each key fragment with its corresponding check data to form friendly error-detectable key fragments.

34. The article of manufacture of claim 33, wherein each friendly error-detectable key fragment comprises at least one word.

35. An article of manufacture, comprising:

5 a computer-readable medium storing computer-executable instructions capable of segmenting a key string into a plurality of error-detectable key fragments, comprising:

fragmenting the key string into a plurality of key fragments; and

calculating, for each key fragment, corresponding error-correction data; and

10 combining each key fragment with said corresponding error-correction data to for a plurality of error-correctable key fragments, wherein said error-correction data permits the identification of errors in said error-correctable key fragments.

36. The article of manufacture of claim 35, further comprising:

15 receiving a plurality of user-entered error-correctable key fragments;

identifying errors in each received error-correctable key fragment using said corresponding error-correction data in the received error-correctable key fragments;

defragmenting the key data of the received error-correctable key fragments into a reconstituted key string that is the same as the original license key string.

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37. The article of manufacture of claim 36, further comprising:

generating an error message indicating said identifier errors in each received error-correctable key fragments.

25 38. The article of manufacture of claim 36, wherein generating an error message comprises:

generating an error message that identifies one or more portions of the received error-correctable key fragment that was entered incorrectly.

30 39. The article of manufacture of claim 16, further comprising:

providing said reconstituted key string to a software package to enable use of the software package.

40. The article of manufacture of claim 16, further comprising:

providing said reconstituted key string to a hardware component to enable use of the hardware component or a portion thereof.

41. The article of manufacture of claim 40, wherein the plurality of error-correctable
5 key fragments comprise friendly error-correctable key fragments.

42. The article of manufacture of claim 41, wherein combining each key fragment with its corresponding check data to form friendly error-correctable key fragments comprises:

10 using at least a portion of one of either said key fragment or said error correction data to select data from a database to form at least a portion of said friendly error-correctable key fragment.

43. The article of manufacture of claim 41, further comprising:

15 receiving a plurality of entered friendly error-correctable key fragments each comprising key data and corresponding error correction data;
using said error correction data to detect errors in said corresponding key data;
generating an error message identifying said detected errors.

20 44. The article of manufacture of claim 41, further comprising:

receiving a plurality of entered friendly error-correctable key fragments each comprising key data and error correction data;
using error correction data to detect errors in said corresponding key data;
defragmenting correct friendly error-correctable key fragments to form a
25 reconstituted license key string.

45. A key fragment generator for segmenting a key string into a plurality of error-detectable key fragments, comprising:

a key fragmenter adapted to input the key string and produce key fragments;
30 a check data generator configured to calculate check data corresponding to the key fragments, wherein the check data can be subsequently used to detect if the corresponding key fragment is entered incorrectly; and
a combiner configured to combine the key fragments and the corresponding check data to provide the plurality of error-detectable key fragments.

46. The key fragment generator of claim 45, further comprising:

a friendly key generator configured to convert error-detectable key fragments into friendly error-detectable key fragments, wherein said friendly error-detectable
5 key fragments are words recognizable by humans.

47. A key defragmenter for combining a plurality of entered error-detectable key fragments into a reconstituted key string, each error-detectable key fragment comprising key data and check data, the key defragmenter comprising:

10 an error checker adapted to use the check data of at least one of the entered error-detectable key fragments to detect if the entered error-detectable key fragment is entered incorrectly; and

an accumulator adapted to defragment the key data of the entered error-detectable key fragments into the reconstituted key string and provide the
15 reconstituted key string.

48. The key defragmenter of Claim 47, further comprising:

a friendly fragment converter adapted to convert friendly error-detectable key fragments into error-detectable key fragments and provide the error-detectable key
20 fragments to the error checker.

49. A key defragmenter for combining a plurality of entered friendly key fragments into a reconstituted key string, comprising:

a friendly fragment converter adapted to ascertain a key fragment, from which
25 the entered friendly key fragment was calculated; and

an accumulator adapted to defragment the ascertained key fragments into the reconstituted key string and to provide externally said reconstituted key string.

50. A key fragment generator for segmenting a key string into a plurality of error-
30 correctable key fragments, comprising:

a key fragmenter configured to fragment the original key string into a plurality of key fragments;

an error correction module configured to calculate error correction data corresponding to each key fragment, wherein error correction data can subsequently

be used to determine the accuracy of the corresponding key data; and

a combiner configured to combine each key fragments with its corresponding error correction data to provide the plurality of error-correctable key fragments.

5 51. The key fragment generator of claim 50, further comprising:

a friendly key generator configured to convert error-correctable key fragments into friendly error-correctable key fragments, wherein said friendly error-correctable key fragments comprise human-recognizable words.

10 52. The key fragment generator of claim 51, further comprising:

a confusability evaluator configured to evaluate confusability of one or more of the key fragments and, based on the confusability, select an error correction algorithm from a plurality of error correction algorithms.

15 53. A licensing key defragmenter for combining a plurality of entered error-correctable key fragments into a reconstituted key string, each error-correctable key fragment comprising key data and error correction data, the key defragmenter comprising:

an error correction module configured to use the error correction data to
20 identify a portion of the entered error-correctable key fragment that was entered incorrectly; and

an accumulator adapted to defragment the key data of the entered error-detectable key fragments into the reconstituted key string and to provide the reconstituted key string.

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54. The key defragmenter of claim 53, further comprising:

a friendly fragment converter adapted to convert friendly error-correctable key fragments into error-correctable key fragments and provide the error-correctable key fragments to the error correcting logic.

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55. A key fragment error detector for detecting an error in an entered licensing key fragment, the licensing key fragment comprising key data and error correction data, the error detector comprising:

an error correction module configured to utilize the error correction data to

determine whether the entered licensing key fragment has been correctly entered; and
an error message generator configured to provide to a user interface a message
that identifies a portion of the entered key fragment that was entered incorrectly.

- 5 56. The key fragment error detector of claim 55, further comprising:
 a friendly fragment converter adapted to convert friendly key
 fragments into key fragments and provide the key fragments to said error
 correction module.